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THE PALÆOGRAPHY OF THE HATHIGUMPHA AND THE NANAGHAT INSCRIPTIONS

BY

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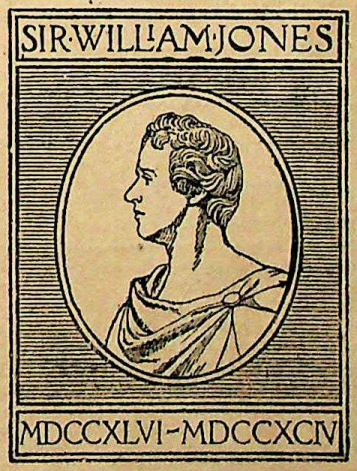

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THE PALÆOGRAPHY OF THE HATHIGUMPHA AND THE NANAGHAT INSCRIPTIONS.

By R. D. BANERJI, M.A.
Benares Hindu University.

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THE PALÆOGRAPHY OF THE HATHIGUMPHA AND THE NANAGHAT INSCRIPTIONS.

By R. D. BANERJI, M.A.
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In the first volume of the Memoirs of the Archaeological Survey, Rai Bahadur Ramaprasad Chanda, who has analysed the letters of the votive inscriptions discovered on the railing of the *stūpas* at Sanchi for the first time, arranged Indian Brāhmī inscriptions, from the third century B.C. to the second century A.D., in the following order :—

(1) Edicts of Aśoka.
(2) Nagarjuni Hill Cave Inscriptions of Aśoka's grandson, Daśaratha.
(3) Besnagar Garuḍa pillar inscription.
(4) (*a*) Inscriptions on the railings of Stūpa No. I at Sanchi.
(*b*) Inscriptions on the railings of Stūpa No. II at Sanchi.
(*c*) Bharut railing inscription.
(*d*) Inscriptions on the remnants of the old Bodhgaya railing.
(5) (*a*) Besnagar Garuḍa pillar inscription of the year XII after the installation of Mahārāja Bhāgavata.
(*b*) Inscription of Nāyanikā, widow of the Andhra King Sātakarṇi I in the Nanaghat Cave.
(*c*) Bharut *toraṇa* (Gate) inscription.
(6) Hathigumpha Inscription of Khāravela, King of Kaliṅga.
(7) Sanchi *Toraṇa* inscriptions.
(8) Inscriptions of the time of Śoḍāsa.
(9) Inscriptions of the time of Kaṇishka.[1]

In 1919, the author was deputed by the Government of Bombay to assist Mr. K. P. Jayaswal, Bar.-at-law, then Honorary Secretary of the Bihar and Orissa Research Society, in taking fresh impressions of the Hathigumpha inscription, when a third fresh impression of this important inscription was taken. This new impression was very helpful in the study of the forms of letters used in this important inscription, as the impression reproduced in the Journal of the Bihar and Orissa Research Society with Mr. K. P. Jayaswal's first reading of this record[2] is not very distinct and therefore cannot be used for an accurate palaeographical analysis. No attempt appears to have been made to study the forms of letters used in the Hathi-

1 *Memoirs of the Archaeological Survey of India, No. 1, pp. 15–16.*
2 *Journal of the Bihar and Orissa Research Society, Vol. III, pp. 425–72.*

gumpha Inscription since the publication of Bühler's monumental work on Indian Palaeography and in the absence of such data, the inscription has been placed by various people in various strata of Indian chronology. An analysis of the forms of different letters of the alphabet used in the Hathigumpha Inscription of Khāravela is therefore necessary to determine its proper position in the chronological scale.

I. HATHIGUMPHA INSCRIPTION.

A. Vowels.

Beginning with the vowels, one finds that the form of *a* used in this inscription is that in which the two curves, forming the left side of the letter, do not touch each other at the point, where they join the vertical straight line on the right; *cf. anugaha anekāni* (l.7), *acitayitā* (l.4) *ahata*[1] (l.5). The initial form of *ā* is not to be found in this record but the medial form is generally denoted by a short, vertical, perfectly straight stroke to the right, as in the Maurya alphabet. The later form of the medial *ā* also is to be found in certain cases; *cf. ṭhā* in *paṭisaṁṭhāpanaṁ* (l.3). The initial form of *i* is not clear and distinct in this inscription but in the medial forms we notice certain changes. In the first instance, the ordinary form of medial *i*, used in this record, is the form with which we are familiar in earlier and later Maurya inscriptions; but certain later forms have also been used side by side. These later forms are indicated by a disparity in the size of the vertical and the horizontal lines, which are equal in length in Mauryan inscriptions and also by the softening of the right angle into a curve; while in certain cases these two straight lines join to become a slightly curved line. The older forms are to be noticed in the first five or six lines; *cf. siri* (l.4). The disparity in size may be observed in *hi* after *saṁdasanā* (l.5) as well as *nagariṁ* in the same line. The softening of the angle into a curve is noticeable almost everywhere; *cf. paṭisaṁkhārayati* (l.3). The degeneration of the right angle into a slightly curved line is noticeable in the last line of the inscription; *cf. ni* in *vāhini* (l.17). The initial long *ī* is also absent in this inscription. The original medial form as used in the Maurya alphabet consists of a short straight horizontal line from the right end of which another straight line rises at right angles to the base line; while a second vertical straight line rises from the base line, parallel to and to the left of the first vertical line. This form is rare in this inscription. The first change in it is the softening of the right angles. This we find in *Kumārī* (l.14). Later changes are the divergence between the vertical lines which stand on the base line thus forming acute and obtuse angles with the latter, instead of right angles; *cf. rī* in *sarīra* (l.2). In the next form, there are two vertical lines at two ends of the base line none of which are at right angles, *cf. kī* in *kīḍikā* (l.2). The latest development is the suppression of the base line as in *bī* in *catubīsati* (l.2). The initial form of *u* is to be found *usava* (l.5) and *upapīḍāpayaṁti* (l.8) but in these initial forms as well as in the medial forms there is no deviation from the ancient Maurya

[1] The text used is the distinct portion of and the lines in this text refer to Mr. K. P. Jayaswal's article in the *Journal of the Bihar and Orissa Research Society, Vol. IV, pp. 397-403*

form ; *cf. Kumārī* (1.14). The long *ū* is to be found in its medial form only as in *rūpa* (1.2). The initial form of *e* is to be found in *etinā* (1.8), where the form is similar to that of *dha*, as two of the lines of the triangular forms have coalesced into a curve. Among the vowels the only other initial forms which remains to be noticed are *ai* and *o*. The very rare *ai* is to be found in *Airena* (l. 1). The initial form of *o* is to be found in *oghāṭitaṁ* (1.6) where there is no difference from the older Maurya form.

B. Consonants.

Among the consonants *ka* is cruciform in shape, in which the length of the vertical line, below the point of its junction with the horizontal line, is greater than its length above that line; *cf. Kaliṁgādhipatinā* (1.1) and *kārayati* (1.4). Two different forms of *kha* have been used in this inscription. We find that the first form is that in which there is a regular circle or sphere in the lower part of this letter. There is a triangle at the end of the vertical line instead of the circle, in the form used in *Khāravelena* (1.1) and the circle or sphere in *Khāravela* (1.17). Another form is without any appendage in its lower part; *cf. lekha* (1.2) and *nikhita* (1.5). Many different forms of *ga* have been used. The oldest of them, no doubt, is that in which there is an angle at the top, though the sides are slightly curved, *cf. nagariṁ* (1.5). The second form is the round broad-backed one, *cf. Gaṁdhava* and *gīta* (1.5), *gopura* (1.3). There are many sub-varieties among the later forms, which depend entirely upon the extent of divergence of the two limbs of the letter. Three different forms of *gha* have been used side by side in this inscription. The older Maurya form, in which the lower part of the latter is yet curved, is to be found in *ghātāpayitā* (1.8). The transitional form in which the curve is modified by being slightly angularised is to be found in *oghāṭitaṁ* (1.6), where the left limb of the curve has become a right angle, while the right end remains a perfect curve. The latest form is to be found in *megha* (1.1), where the curve has disappeared giving place to two right angles.

The form of *ca* is that of the earlier inscriptions and consists of a vertical straight line to the lower part of which is attached a semi-circle, on the left side of it. Three clear cases of *cha* are to be met with *pachima* (1.4), *achariyaṁ* (1.13), and *vochine* (1.16) and in all of these three cases the form used is the older Mauryan form, in which two perfect semi-circles are attached to the bottom of a short vertical straight line, one on each side of it. Three different forms of *ja* have been used. The older form is to be found in the majority of cases and in this form the angularisation of curves is not yet noticeable. This we find in *Vijā* (1.2), *yovarajaṁ* (1.2). Side by side with this form, the transitional form is to be found in a few cases where we notice the partial angularisation of the curves, as in *visajati* (1.7). The later angularised form is to be noticed in one or two cases; *cf. rāja* in *Ceti-rāja* (1.1), where in spite of the angularisation of the curves, the left end of the letter has not become a straight line as in later Kuṣaṇa forms. *Jha* does not occur.

The form of *Ṭa* is that of a vertical semi-circle as in the Maurya alphabet *cf. makuṭa* (1.5) *oghaṭitaṁ* and *vaṭa* (1.6). So also is the case of *ṭha*, which is a complete

circle : *cf. Raṭhika* (l.1) and *paṭhāpayati* (l.14). *Ḍa* also has the old form *e.g.*, *kaḍāra* (l.2) and *Pāḍarāja* (l.13). *Ḍha* occurs in (l.5) according to Mr. Jayaswal,[1] but this letter is not at all clear in the impressions and is, therefore, being left out. There is no difference in the form of *ṇa* used in this inscription and the Maurya form, where the horizontal lines at the top and bottom of the letter are perfectly straight and parallel, has been used in all cases.

Three different forms of *ta* have been used, two of which are older forms ; in the first one of which the lower part of the letter is a semi-circle and this form is to be found in the majority of cases ; *cf. arāhātānaṁ* (l.1) and *tato* (l.2). In the second one, the place of the curve is taken by two different tangential strokes from the lower end of the vertical straight line ; *cf. hita* (l.6). The third form is the later one to be found in the inscriptions in Cave No. X at Nasik,[2] where the vertical straight line does not stand exactly on the centre of the lower part of the letter, but partly to the left. This form is to be seen in *Ceti* (l.1) and *avadātena* (l.2). There is no change in *tha*, which is a perfect circle with a point in its centre ; *cf. civuthe* (l.4). Two forms of *da* have been used ; (1) in which there is no angularisation of the curve in the middle of the letter, *cf. paṁdarasa* and (2) in which the curve in the middle of the letter has become angularised, *cf. panādena* (l.9). So also in the case of *dha* two forms are to be found. In the first form, the letter consists of a vertical straight line to the right and a semi-circle or a large segment of a circle to the left, both ends of which meet both ends of the straight line ; *cf. Kaliṁgādhipatinā* (l.1), *padhame* (l.3), and *vidhi* (l.2). In all of these forms, the angles formed by the curve with this line are equal both at the top and the bottom. In the other form, the angle at the bottom is smaller than that at the top ; *cf. Vijādhara* (l.5), *Madhurâm* (l.8). There is no change in *na*, the base line of which is perfectly straight.

Four different forms of *pa* are to be found in this inscription : (1) The first of them is the ancient Maurya form in which the lower part of the letter is a perfect curve. There are two instances of this form ; the first *pa* in *paṭhāpayati* (l.4) and *Utarāpadha* (l.11). (2) Next comes the transitional form in which one side of the curve becomes rectangular while the other side remains curved ; *cf. paṁdarasa* (l.2), and *kārāpaṇā* (l.5). (3) Last of all, comes the later form in which the lower part consists of two right angles instead of a perfect curve ; *cf. Kaliṁgādhipatinā* (l.1), the second *pa* in *paṭhāpayati* (l.4) and *apayāto* (l.8). The fourth form is the early *Kṣatrapa* or *Kuṣaṇa* form, in which though the right angle appears, both vertical arms of the letter are almost equal in height ; *cf. Kaparukho* (l.9). In this inscription, however, only the first three forms are to be found in large numbers. *Pha* does not occur at all and *ba* is almost a perfect square in shape ; *cf. bahula* (l.4), *budho* (l.5). In *bha*, in the majority of cases, the length of both straight lines in the lower part of the letter is not the same. The majority of cases show the later form, with the exception of *Bhoṭake* (l.6), where both of the lower limbs are of equal length ; *cf.*

[1] *Ibid., Vol. IV, p. 398.*

[2] *Epi. Ind., Vol. VIII, pp. 78-86 ; Nos. 10-14a.*

abhisitamato (l.3). In all cases, however, the right arm of the letter consists of a single line and not three as in the case of the older Maurya form. Two differnt forms of *ma* are noticeable. One is the older form in which the lower part of the letter consists of a circle and the upper part of two well-rounded curves. This form is to be found in the majority of cases; *cf. Mahāmeghavāhanena* (l.1), *Kumāra* (l.2), and *pachima* (l.4). The other form is the transitional form between the Maurya and the Kuṣaṇa ones, in which the lower part of the letter consists of a triangle while the upper part consists of two curves; *cf. namo* (l.1), *Mahārājabhisecanaṁ* (l.3) and *satamaṁ* (l.7).

There are two different forms of *ya* in the Maurya alphabet, both of which have been used in the Hathigumpha inscription. In one of these forms, the lower part of the letter consists of a single curve; *cf. Yo Venābhivijayo* (l.2), while in the other it consists of two different curves, *cf. haya* (l.4). Both forms have been used side by side in this inscription. *Ra* consists of a straight line which does not end in in a series of curves, styled "the corkscrew pattern" by Rai Bahadur Ramaprasad Chanda.[1] Three forms of *la* are to be seen; *e.g.*, (1) the older Maurya form or the form in which the lower part of the letter is a perfect curve and the right arm is higher than the left; *cf. lekha* (l.2) and *tālaṁ* (l.3). The second form is slightly later in date, in which, though the lower part is still curved, the height of the right vertical line has diminished; *cf. bahulaṁ* (l.4), and *Kaliṁga* (l.3). In the third form, though the height of the vertical line on the right is greater than that of the left limb of the letter, the lower part has become rectangular, *cf. Kaliṁga*, (l.3), *Tanasuliya* (l.6), *paṭālako* (l.16) and *Khāravela* (l.17). There are two different forms of *va*, the first of which is the older Maurya form, in which the lower part of the letter is round or circular; *cf.* the first *va* in *vavahāra* (l.2) as well as that in *supavata* (l.14). The other form is the later form, in which the lower part of the letter consists of a triangle. This form has been used in the majority of cases in this inscription; *cf. sava* (l.1), *vidhi* (l.2), *vāta* (l.3), and *vase* (l.4).

The only instance of the palatal *śa* in this inscription is to be found in the last line, in the word *Viniśrito*, which has been read correctly by Mr. Jayaswal for the first time, all previous scholars having read *vinigato*. The subscript *r* is denoted by an additional horizontal stroke attached to the lower end of the right limb. The lingual *ṣa* does not occur, but there are three varieties of the dental *sa*; (1) the Mauryan form as in *Sidhānaṁ* (l.1), (2) later Maurya form as in *sava* (l.1), and (3) the Early Kuṣaṇa form as in *Civuthe vase* (l.5). Among these, however, the first two have been used in the majority of cases. Similarly, three different forms of *ha* have been used side by side, in this inscription, as in the case of *la*. The older form is that in which the lower part is curved but the height of the left vertical line is greater than that of the right limb; *cf. Mahārājābhisecanaṁ* and *vihata* (l.3). In the transitional forms, the lower part is slightly angularised or the height of the left limb is reduced. In the former sub-variety can be placed *Mahārāja* and *Mahāmeghavāhana* (l.1). The reduction of

[1] *Memoirs of the Archaeological Survey of India; No. 1, p. 5.*

the height of the left limb is to be noticed in *haya* and *bahulaṁ* (l.4). The angular form of the letter is to be found in *vavahāra* (l.2), *bhiṁgārehi* (l.6).

II. THE NANAGHAT INSCRIPTIONS.

A comparatively small number of letters have been used in the Nanaghat inscription. Of vowels, the initial forms used are those of *a* and *i*. Among constants *gha*, *ña*, *jha*, *ḍa*, *ḍha*, *ṇa*, and *pha* as well as the palatal and lingual sibilants have not been used at all.

A. Vowels.

Among vowels, the form of *a* used consists of a straight vertical line on the right, to the middle of which is attached two slanting or tangential lines, one going towards the top and the other towards the bottom, both on the left side, *cf. apratiha-ta* (l.2), *Aṁgiya* (l.3), *agādheya* (l.6). The only exception is *Asamedho* (B.l.1). The inscription has suffered much since the publication of the first facsimile in 1883.[1] Whatever portions of it remained undamaged show that no other form of *a* has been used. The initial form of *i* has been used only once in the invocation to Indra in line 1 *(Iṁdasa namo)*.

B. Consonants.

Only one form of *ka* is to be found, which is a regular Latin cross in shape, in which the horizontal straight line is shorter in length than the vertical and the portion of the vertical line below the horizontal line is longer than the portion above the horizontal line, *cf. Saṁkaṁsana* (l.1) and *Cakasa* (l.2).

The form of *kha* used does not show any circle or triangle at the bottom of the straight line, which forms its right limb ; *cf. Dakhināpatha* (l.2) but in this word the form of the letter is not very clear. There are two other clear instances, one of which is *dikha* (l.5) and the other *dakhinā* (l.6) ; while in the second part of the inscription the letter is to be found serveral times in the word *dakhinā*.[2] Several forms of *ga* are to be found in this inscription. The most common form is the broad one, in which the curve in the upper part of the letter is almost a straight line and not a curve ; *cf. Aṁgiya* (l.3). Another form is the Maurya form, in which the angle at the top has not given way to the curve ; *cf. agādheya* (l.6). A more clear instance is to be found in *ānāga* (l.5) and *Sāgara* (l.3). The earlier form is to be found in *giri* (l.3) as well as in *gaha* (l.5) ; *gha* and *ña* do not occur in this inscription.

In the next *varga*, *ca* consists of a vertical straight line on the right and a semi-circle on the left which is attached to the foot of the vertical straight line on its left side ; *cf. Caṁda*. A slightly modified form is to be found in (l.4) in the word *Cakasa* where the letter resembles the letter *va* of the Kuṣaṇa period and consists of a short vertical straight line at the bottom of which is a modified triangle, the angles of which have turned into curves. *Cha* occurs only once, in l.7 of the second part of the large inscription in the word *chavasa*. Here the form of the letter consists of a

[1] *Reports of the Archaeological Survey of Western India, Vol. V ; Report on the Elura Caves and the Brahmanical and Jaina caves in Western India, London, 1883, pl., LI, 1 and 2.*

[2] *Ibid., pp. 60–61.*

vertical straight line the lower part of which acts as the diameter of a circle. *Ja* is rather rare. It is to be found in the last line of the first part of the big inscription in the word *Rāja*, which has been correctly restored as *Rājasuya*. Here, the form is that of the English letter E without the angles, or rather it consists of two semi-circles placed one above the other, both of which are open towards the right. *Jha* does not occur but *ña* occurs several times in the word *yaṁña* or *yaña*. The form consists of a short vertical stroke at the top, attached to the right end of which is a straight line. To the right of this straight line, and joining it at its middle, is another horizontal straight line, at the end of which is another vertical straight line, going down. In the forms which are legible in this inscription, all vertical lines form right angles with all horizontal lines which they meet; *cf. Yaṁña* (l.6).

Ṭa consists of a semi-circle open to the right; *cf. paṭā* (B.ll.4-5). *Ṭha* is more common as in the word *Yiṭha*. It consists of a plain circle; *cf. Yiṭho* in l.1 of the second part of the large inscription. *Ḍa*, *ḍha*, and *ṇa* do not occur in this inscription. *Ta* generally consists of a curve hanging to the lower end of a vertical straight line; *cf. vrata* (l.5). In certain cases, the upper vertical line is not attached exactly to the middle of the curve, *cf. apratihata*, where both forms are of this type. An older Maurya form is to be found in *mahimāvatānaṁ* (l.1), where instead of the curve there are two tangential strokes, dropping down from the bottom of the vertical straight line. *Tha* consists of a complete circle with its centre marked by a dot; *cf. asaratha* (B.l.1). *Dha* consists of two different types. In the first type, the letter consists of a vertical straight line to the left of which and attached to its ends is a semi-circle. In the other type, the semi-cricle decreases in size to an arc of a circle which is smaller than a semi-circle, and in which the angle at the bottom is often smaller than that at the top; *cf. vadhanasa* (l.3), *dhanadasa* (l.4). In *da*, no angle is to be found in the middle, where instead of it a well-defined semi-circle is to be seen; *cf. Iṁdasa* and *caṁda* (l.1). In the second part of the inscription, *da* occurs in the words *dakhinā* and *dinā* several times but no angle is visible. The forms, however, are not so regularly formed as in the first part; *cf.* the form of this letter in the word *dakhinā* in the first part of l.6. *Na* consists of a perfectly straight horizontal base line and standing at right angles to it, a vertical straight line, which are almost equal in length. The lengths of the horizontal and vertical straight lines, however, vary in certain cases; *cf.* the form used in the first word *kāhāpanā* in l.10.

Many different forms of *pa* are to be seen in this inscription. The older Maurya form is to be found in l.4 of the second part of the big inscription. The later Maurya form, in which the vertical line has decreased in height, is to be found in *masopava-siniya* (l.5). The next later form in which the curves have turned into straight angles is to be found in *apratihata* (l.2) and *putradasa* (l.4). The last mentioned form appears to be the usual one as it occurs more frequently than others. *Pha* does not occur and *ba* occurs only twice; *cf.* the word *brahmachariyāya* (l.5) and *bitiyo* in B. l.1. In both of these cases the form of the letter is that of the regular square. But in *bitiyo* the upper line of the square is not straight; *bha* occur once in the word *bhariya*

in l.4 of part A. It occurs once more in the second part, in the word *bhagala* in B. 1.4, but in this case the form is very indistinct and therefore it is not reproduced. In the word *bhariyā*, the form of *bha* used, consists of a vertical straight line on the right, from the middle of which there is another horizontal straight line at right angles to it, on the left. From the left end of this horizontal straight line another vertical straight line drops at right angles downwards, the form thus differing from that of the older or Maurya alphabet. The letter *ma* consists of a circle at the bottom and two curved lines, the top of it. This form is a very near approach to the Maurya form of this letter. The early Kuṣaṇa form is also used; *cf. asamedho*, (B.l.1).

Only one form of *Ya* has been used. This is the anchor-shaped form, in which there is a semi-circle or arc of a circle in the lower part, which is open towards the top. From the centre of this arc a vertical straight line rises at right angles. *Ra* consists of a perfectly straight vertical line. The form of *la* used in the majority of cases, is of the old Maurya type in which the straight line in the right half of the letter is still higher than the left limb; *cf. bālāya* and *kula* in l.3, and *rupālaṁkāro* in l. 1 of part B. The other form appears to be southern. It is to be found in *balayāya* (l. 3) and *vasalaṭhi* (l. 8). This second form appears to have been evolved out of the peculiar form of *la* used in certain cases in the Bhaṭṭiprolu inscriptions; *cf.* the form of this constant in *kelo* in l. 5 of the inscription on the lid of the third casket discovered at this place.[1] Two different forms of *va* are to be found, the earlier one, which consists of a vertical straight line on the top and a sphere or circle attached to the lower part of this line, is to be found in *vadhanasa* (l. 3). The later form in which the sphere or circle is changed into a triangle is to be found in *Vāsudevānaṁ* (l.1), also *devasa* (l. 4).

The palatal and medial sibilants have not been used in this inscription, but we find several different forms of the dental sibilant. The Maurya form of the dental sibilant has not been used in a single instance in this inscription. In the majority of cases, the vertical lines of both limbs of this letter are almost equal; *cf. Dhaṁmasa* and *Iṁdasa* in l.1. In certain cases, the difference between the right and left limbs has increased and the latter has assumed the form with which we are familiar in Kuṣaṇa inscriptions; *cf. Kumāravarasa* and *Vedisirisa* (l.1), *sūrasa* and *cakasa* (l.2), *vadhanasa* and *Sāgara* (l. 3), and this is certainly the type-specimen of the dental sibilant used in this inscription. In the case of the aspirate, the Maurya form is to be found in *Mahāraṭhino* (l.3), *apratihato* (l.2), and *gaha* (l.5). The second form, however, is observable in the word *kāhāpana*, both in the first and the second part of the inscription, in which the height of the left vertical line is certainly much less.

III. THE COMPARISON.

We are now in a position to institute a comparison between the forms of the letters used in the Nanaghat and the Hathigumpha inscriptions. It has generally been supposed that the Nanaghat inscription is much earlier than the Hathigumpha

[1] *Epi. Ind., Vol. II, p. 328, No. VIII.*

inscription. This mistaken view is entirely due to the faulty facsimile published by Bühler in 1883, after which date no other facsimile has been published nor do we know of any attempt to secure and publish a more accurate reproduction of this important record.

A. Vowels.

The only vowel, the initial form of which has been used in both inscriptions, is *a*. On comparing three specimens from each inscriptions it is to be noticed that the form used in the Hathigumpha inscription in (1) *acitayitā* (l. 4), (2) *ahata* (l. 5), and (3) *anugaha* and *anekāni* (l. 7) is certainly later than the form used in the Nanaghat inscription in three cases (1) *apratihata* (l. 3), (2) *Aṁgiya* (l. 3), and *agādheya* (l. 6); but is the same as that used in *Asamedho* in B.1.1 of the latter record. The general softening of the angle in the medial forms of the short and long *i*, which is to be found in the Hathigumpha inscription is rarely found in the Nanaghat records.

B. Consonants.

Among consonants, the form of *ka* used in the majority of cases, in both inscriptions, is perfectly identical. This form shows greater length in the second or lower portion of the vertical straight line, which is below the horizontal line, compared with the part of it above that line. In the Hathigumpha inscription, the form used in *Kaliṁgādhipatinā* (l. 1) and *kārayati* (l. 4) is exactly similar to that used in *Saṁkaṁsanasa* (l. 1) and *cakasa* (l. 2) of the Nanaghat inscription. Two forms of *kha* have been used in the Hathigumpha inscription but only one form has been used in the Nanaghat record. In the second form, used in the Hathigumpha inscription, which has also been used in the Nanaghat inscription, there is no pendant hanging from the bottom of the vertical line and therefore there is no indication in this letter which can enable one to determine the age of this consonant by a comparison. A number of varieties are to be noticed in *ga* in both inscriptions. Thus the oldest or the Maurya form is to be found in *nagariṁ* (l. 5) of the Hathigumpha inscription and in *giri* (l. 3) and *gaha* (l. 5) of the Nanaghat inscriptions. The next form is that in which the angle at the top of the letter is retained but the sides are curved; *cf.* *agādheya* (l. 6) of the Nanaghat inscriptions. The later broad-backed form, in which the angle at the top of the letter gives way to a curve, is to be seen in both inscriptions; *cf.* *Aṁgiya* (l. 3) of the Nanaghat inscriptions and *Goṕura* (l. 3), *Gaṁdhava*, and *gīta* (l. 5) of the Hathigumpha inscription. *Gha* does not occur in the Nanaghat inscription, but it should be noted in this connection that the Hathigumpha inscription shows at least three different varieties of this consonant and in this record, the early Maurya form has been used side by side with the early Kuṣaṇa form, in which the curve at the bottom has turned into two right angles. In both inscriptions, the form of *ca* used is that of the earlier inscriptions of the Maurya period; *cf.* *catubīsati* (l. 2), *paṁcame* (l. 6) in the Hathigumpha inscription and *Caṁda* (l. 1), *cakasa* (l. 2), *carita* (l. 5) in the Nanaghat inscription. *Cha* occurs at least four times in the Hathigumpha inscription, but is to be found only once in the Nanaghat inscription. In the latter case, the form is that of a vertical straight line, the lower end of which bisects or acts

as a diameter of a circle. But the Hathigumpha inscription shows the use of "the butterfly type" of Rai Bahadur Ramaprasad Chanda[1]; *cf. pachima* (l. 4), *chata* (l. 5), *achariyam* (l. 13), and *vochine* (l. 16). In the Nanaghat inscription please see the forms in *cha-vase* (B.l. 7) and *chando* (l. 6). *Ja* also is very rare in the Nanaghat inscription while it is quite common in the Hathigumpha record. In the Nanaghat inscription it is to be found only once; in A. l. 10 in the word *Rājasuya*. Here, the form of the letter is that of the old English letter E, in which right angles have taken place of the curves. This form has also been used in the majority of cases in the Hathigumpha inscription; *cf.* (1) *Vijā* (l. 2), *Yovarajaṁ* (l. 20), *gaja* (l. 4); but in this record transitional as well as later forms are also to be found. The transitional form is that in which angularisation of the curves has taken place to a certain extent; *cf. visajati* (l.7) and the more finished form of the first century B.C., or the early Kuṣaṇa form[2] in which all curves have given place to angles. In this form, the letter has the appearance of the Roman letter *E* and it is to be found in one or two cases only; *cf. Cetirāja* (l. 1). *Jha* does not occur in any of these inscriptions, while *ña* to be found in the Nanaghat inscription is of no use for purposes of comparison.

The form of *ṭa* in both inscriptions is the same; *cf. makuṭa* (l. 5), *oghāṭitaṁ*, and *vāṭā* (l. 6) of the Hathigumpha inscription and *paṭā* (B. ll. 4-5) of the Nanaghat inscription. *Ṭha* also is exactly similar in both inscriptions; *cf. luṭhita* (l. 1) and *paṭhāpayati* (l. 4) of the Hathigumpha inscriptions and the word *yiṭha* in various parts of the Nanaghat records, (B. ll. 1, 4-6). *Ḍa, ḍha*, and *ṇa* do not occur in the Nanaghat inscription, and though they occur in the Hathigumpha inscription, no comparison can be instituted. It should be noticed in this connection that both the base and top lines of *ṇa* are perfectly straight in the latter record; *cf. gaṇanā* (l. 2), proving that the Kuṣaṇa form of this consonant had not come into use at that time in Orissa.

The older form of *ta* has been used in the majority of cases in both inscription; *cf. vrata* (l. 5) of the Nanaghat inscription and *aṙahātānaṁ* (l. 1) and *tato* (l.2) of the Hathigumpha inscription. The other form in which the place of the curve in the lower part of the inscription is taken by two tangential straight strokes is also to be found in both records; *cf. mahimāvatānaṁ* (l. 1) of the Nanaghat record and *hita* (l. 6) of the Hathigumpha record. A third form also occurs in both inscriptions, in which the vertical straight line in the upper part of the letter is not placed exactly in the middle of the curve in its lower part, but is on one side; *cf. Ceti* (l. 1) and *avadātena* (l. 2) of the Hathigumpha record and *apratihata* (l. 2) of the Nanaghat inscription. The form of *tha* in both inscriptions is exactly the same, *cf. civuthe* (l. 5) of the Hathigumpha inscription and *Asaratha* (l. 1) of the second part of the Nanaghat inscription. Only one form of *da* is used in the Nanaghat inscription where no angle is to be found in the curve in the middle of the letter; *cf. Iṁdasa* and *Caṁda* (l. 1); but in the second part of the inscription, there is at least one instance in which this curve at the back is not regularly formed; *cf. Dakhinā* in the first half of B. l. 6. Compared with this, at least two different forms are used in the Hathigumpha inscrip-

[1] *Memoirs of the Arch. Survey of India, No. 1, p. 5.*

[2] *Epi. Ind., Vol. VIII, p. 175*

tion. The first or oldest is the Maurya form in which the curve in the middle of the letter is well formed; *cf. paṁdarasa* (l. 2). The other form shows this curve to have become angularised, as in *panādena* (l. 9). Both inscriptions show two different forms of *dha*. The older form is that in which the left limb of the letter consists of a complete semi-circle; *cf. Dhaṁmasa* of the Nanaghat inscriptions and *padhame* (l. 3) and *vidhi* (l. 2) of the Hathigumpha inscription. The later form is that in which the left limb is smaller than a semi-circle; *cf. vadhanasa* (l. 3) and *dhanadasa* (l. 4) of the Nanaghat inscriptions and *Vijādhara* (l. 3) as well as *Madhuraṁ* (l. 8) of the Hathigumpha inscription. In both inscriptions the form of *na* is similar, the base line being perfectly straight.

At least three different forms of *pa* have been used in the Nanaghat inscriptions and four in the Hathigumpha inscription. The earlier or Maurya form of this letter occurs in both inscriptions; *cf. Lokapālānaṁ* (l. 1) of the Nanaghat inscriptions and *paṭhāpayati* (l. 4) as well as *Utarāpadha* (l.11) of the Hathigumpha inscription. The Nanaghat inscriptions show the use of a peculiar transitional form, in which though the lower part of the letter remains curved, the height of the left vertical line decreases very much, making both ends of the curve level; *cf. masopavasiniya* (l. 5). Another transitional form is to be found in the Hathigumpha inscription in which one side of the curve becomes rectangular while the other side remains curved; *cf. paṁdarasa* (l. 2) and *kārāpaṇā* (l. 5). The next later form, in which the curve at the bottom of this letter is turned into two right angles; is the most common form in both inscriptions; *cf. apratihata* (l. 2) and *putradasa* (l. 4) of the Nanaghat inscription as well as *Kaliṁgādhipatinā* (l. 1), the second *pa* in *paṭhāpayati* (l. 4) and *apayāto* (l.8) of the Hathigumpha inscription. The Hathigumpha inscription shows a still later form, in which the lower part is rectangular, but both verticals are equal in length; *cf. Kaparukho* (l. 9). *Pha* does not occur in any of these inscriptions and the form of *ba* is almost a perfect square in both inscriptions; *cf. Bahula* (l. 4) and *Budha* (l. 5) of the Hathigumpha inscription and *brahmacariyāya* (A. 1.5) and *bitiyo* (B.l.1) of the Nanaghat inscription. It should be noticed that the upper line of the square in *bitiyo* is curved and so is one side in *bahula* of the Hathigumpha inscription. There is some difference in the form *bha* used in both of these inscriptions; *cf. Bhariyā* (1.4) of the Nanaghat inscription and *mahārājābhisecanaṁ* (1.3) of the Hathigumpha inscription. In the latter inscription, the later form of this letter is to be found in the majority of cases, in which the lower ends of the two vertical straight lines are not equal in length; *cf. abhisitamato* (1.3). Instances of irregularly formed *bha* are also to be met with in the Nanaghat inscription; *cf. kubhiyo* (1.8). Only one form of *ma* is used in the Nanaghat inscription; *cf. Dhaṁmasa* (l. 1), while three different forms are to be noticed in the Hathigumpha inscription. The most common form is the older Maurya one, with which there is very little difference between the form used in the Nanaghat inscription; *cf. pachima* (1.3). The second form is the transitional form; *cf. namo* (1.1) and *satamaṁ* (1.7).

Only one form of *ya* has been used in the Nanaghat inscription; *cf. agādheya* (1.6) while two different forms have been used in the Hathigumpha inscription; *cf.*

Yo Venābhivijayo (l.2) in which the lower part consists of a single curve and *haya* (l.4) in which the lower part consists of two distinct curves. In the first form of this letter, there is no difference in any of these two inscriptions. So, also, *Ra* consists of a straight line in both inscriptions. Three different forms of *la* have been used in each of these two inscriptions. Among these three the first two are common to both. In these two forms, the first is that of Maurya inscriptions in which the height of the right limb has not decreased in size; *cf. bālāya* and *kula* (l.3) of the Nanaghat inscriptions and *lekha* (l.2) as well as *tālam* (l.3) of the Hathigumpha inscription. The second form is that in which the height of the right limb has perceptibly decreased; *cf.* the second *la* of *lokapālānaṁ* (l.1) of the Nanaghat inscription. With this please compare the form of this letter in *bahulaṁ* (l.4) and *Kaliṁga* (l.3) of the Hathigumpha inscription. In addition to these forms the Nanaghat inscriptions show the use of a peculiarly southern form in which the base line is suppressed; *cf. valayāya* (l.3), a specimen which is not very distinct, and *vasalathi* (l.8).[1] The Hathigumpha inscription shows the use of that later form in which the curve at the bottom of the letter has become two right angles; *cf. Kaliṁgarāja* (l.3), *Tanasuliya* (l.6), *paṭālako* (l.16), and *Khāravela* (l.17)[2]. Both inscriptions show the use of two different forms of *va*. In the Nanaghat inscriptions the earlier form is to be seen in *vadhanasa* (l.3). In the Hathigumpha inscription the first instance of this form is to be seen in the word *vavāhara* (l.2) and in *supavata* (l.14). The later form, in which the circle at the bottom has changed into a triangle is to be found in *Vāsudevānaṁ* (l.1) of the Nanaghat inscriptions and in the majority of cases in the Hathigumpha inscription; *cf.sava* (l.1), *vidhi* (l.2), *vāta* (l.3), and *vase* (l.4). The palatal and lingual *sas* do not occur in the Nanaghat inscriptions and in the case of the dental *sa* we find different varieties. The Maurya form is to be found in the Hathigumpha inscription in *Sidhānaṁ* (l.1), but not in the Nanaghat inscriptions. The later Maurya form is to be found in *Saṁkaṁsana* and *Vāsudevānaṁ* in (l.1) of the Nanaghat inscriptions and in *sava* (l.1) of the Hathigumpha inscription. The early Kuṣaṇa form is to be found in the majority of cases in the Nanaghat inscriptions; *cf. kumāravarasa* and *Vedisirisa* (l.1), *sūrasa* and *cakasa* (l.2), *vadhanasa Sāgara* (l.3) and *devasa* (l.4). This form is to be found rarely in the Hathigumpha inscription where there is at least one clear instance in *vase* (l.5). Two different forms of the aspirate have been used in the Nanaghat inscription, (1) the Maurya form, in which the height of the left vertical line is undiminished as in *apratihata* (l.2) and *Mahāraṭhino* (l.3). This form is also to be found in the Hathigumpha inscription in *Mahārājābhisecanaṁ* and *vihata* (l.3), (2) the later Maurya form, in which the height limb is reduced, is to be found in the word *Kāhāpanā* in almost all instances in the Nanaghat inscriptions; *cf.* the instances in l.10 of the first part. In the Hathigumpha inscription this later Maurya

[1] Cf. the forms of *la* in the last three lines of the Junagadh inscription of Rudradāman I, e.g., *pālana* (l.18), *Kulaipa* and *acapālena* (l.19.) *Epi. Ind., Vol. VIII, pp. 44-45.*

[2] The late Rao Bahadur Hoskote Krishna Sastri thought after examining the rock that this was ḷa and not *la*. Both the writer and Mr. K. P. Jayaswal have examined this portion of the rock repeatedly and we are of opinion that Mr. Krishna Sastri was led to imagine a different form by the weatherings on the rock surface. *Vide. Annual Report, Arch. Survey of India, 1922-23, p. 130.*

form is to be seen in *haya* and *bahula* (l.4). The Hathigumpha inscription shows the later and angularised Early Kuṣaṇa form in *vavahara* (l.2) and *hita* (l.6).

IV. CONCLUSIONS.

We have seen above that the form of *a* and *bha* is earlier in the Nanaghat inscriptions but at the same time the forms of the following consonants do not differ in these inscriptions :—

(1) *ka*, (2) *kha*, (3) *ga*, (4) *ca*, (5) *cha*, (6) *ṭa*, (7) *ṭha*, (8) *ta*, (9) *tha*, (10) *dha*, (11) *na*, (12) *pa*, (13) *ba*, (14) *ma*, (15) *ya*, (16) *ra*, (17) *la*, (18) *va*, and (19) *sa*. Among these consonants, southern influence is distinctly to be felt in certain cases, in the Nanaghat inscriptions, which is totally absent in the Hathigumpha inscription. This southern influence is more pronounced in the Nanaghat inscriptions in the case of *la*, which shows that the peculiar southern form of this letter, which is also to be found in certain cases in the Junagadh rock inscription of Mahakṣatrapa Rudradāman I, and in *sa* to some extent. In two cases, the Hathigumpha inscription shows the use of the Early Kuṣaṇa form in addition to the form used in the Nanaghat inscriptions. Take, for example, *pa* and *ha* ; but it should be remembered in this connection that the land to the south of the Narmada was very little influenced by the Northern Kṣatrapa or Early Kuṣaṇa scripts, which became the precursors of all later Northern alphabets, but was not the precursor of any Southern alphabets. The former, to some extent, modified the Southern variety of the central group of Northern inscriptions of the fifth and sixth centuries A.D., as is evident from the Junagadh inscription of Skandagupta[1] and the Bijaygadh (Bayana) inscription of the Yaudheyas.[2] On the other hand, like the initial form of *a*, certain consonants in the Hathigumpha inscription show the use of forms which are certainly later than those used in the Nanaghat inscriptions. They are more particularly :—

(1) The right-angled form of *Ja*.
(2) The right-angled form of *da*.
(3) The form of *bha* in which the left vertical is shorter than the right, and
(4) The angular form of *ma*.

Thus the difference in the forms of letters used in these inscriptions are so very few, that the occurrence of certain later forms in any one of them cannot be taken to indicate a later date of that particular inscription ; specially in view of the fact, that the record, in which such later forms of characters were used, lies about a thousand miles distant from the other.

We must now return to Rai Bahadur Ramaprasad Chanda's arrangement of Brāhmī inscriptions from the third century B.C. to the first century A.D. He has recently reviewed his own position with regard to this arrangement in reply to certain criticisms which has appeared in the Journal and Proceedings of the Asiatic Society of Bengal.[3] In this new contribution to the subject, Chanda has carefully

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[1] Fleet—*Gupta Inscriptions, pp. 56-61 : pl. VIII.*
[2] *Ibid., p. 252 : pl. XXXVI, B.*
[3] See *Vol. XVII, 1922, pp. 225-33.*

confined himself to the votive inscriptions on the Sanchi *Stūpas*. He does not bring up the question of the general arrangement of Brāhmī inscriptions but confines himself to a broad classification of Northern Indian Brāhmī :—

"1. Mauryan Brāhmī,

2. Early Śuṅga or second century B.C., variety of Brāhmī agreeing with the Mauryan Brāhmī in all particulars except the monumental forms of *a*, *bha*, *dha* and *ha*.

3. First century B.C., Brāhmī characterised by straight vertical lines with thickened tops called *serif*,

4. First century A.D., Brāhmī with equalised vertical lines." [1]

In his fresh contribution to the subject, Chanda has not touched the question of the Nanaghat or the Hathigumpha inscriptions. His previous conclusions on the arrangement of Brāhmi inscriptions was vitiated by the comparison of Northern inscriptions with those from the country to the south of the Narmada and the Vindhyas. Palæographical examination is not possible with inscriptions lying more than a thousand miles apart. Such examinations are possible only in the case of a particular group of inscriptions from a particular locality; *e.g.*, Kharoṣṭhi inscriptions from the Panjab and Afghanistan, but not in the case of Indian Kharoṣṭhī inscriptions with those discovered in Central Asia; and Northern Brāhmī inscriptions discovered in the region between Patna and Mathurā. Therefore Chanda's classification of votive inscriptions from Sanchi is perfectly accurate. The analysis of the characters of the Nanaghat and the Hathigumpha inscriptions will show that Chanda's latest classification is also wrong. The general tendencies of transitional forms are to be overdeveloped in one area and very slow in development in another. Let us take, for example, the inscription of a certain descendant of the first Śuṅga emperor Puṣyamitra discovered at Ayodhya. This inscription mentions Puṣyamitra as a *senāpati* but not a king. It purports to record the erection of *ketana* by one of his descendants.[2] The characters of this inscription fall into the fourth variety of Mr. Chanda's recent classification, but can the inscription be placed in the first century A.D.? Will Rai Bahadur Ramaprasad Chanda compare the characters of Ayodhya-inscription with the Śuṅga *toraṇa* inscription from Bharhut and the Besnagar pillar inscription of the year 12 from the coronation of Mahārāja Bhāgavata? The Besnagar Garuḍa pillar inscription of Heliodoros, the ambassador of the Greek king, Antialkidas, was placed by Chanda immediately after the Nagarjuni and Barabar Cave inscriptions of Daśaratha. He placed too much reliance on numismatic evidence. The mistake of such a procedure has been proved by Prof. E. J. Rapson who places Antialkidas in 90 B.C., thus making him a century later than Puṣyamitra.[3] I reserve the comparison of the Śuṅga inscriptions from Ayodhya, Kosambi, Bharhut, and Besnagar for a future occasion. But a glance at the facsimilies of the Ayodhya and Besnagar inscriptions will prove to the most casual reader that Chanda's most recent classification is also wrong.

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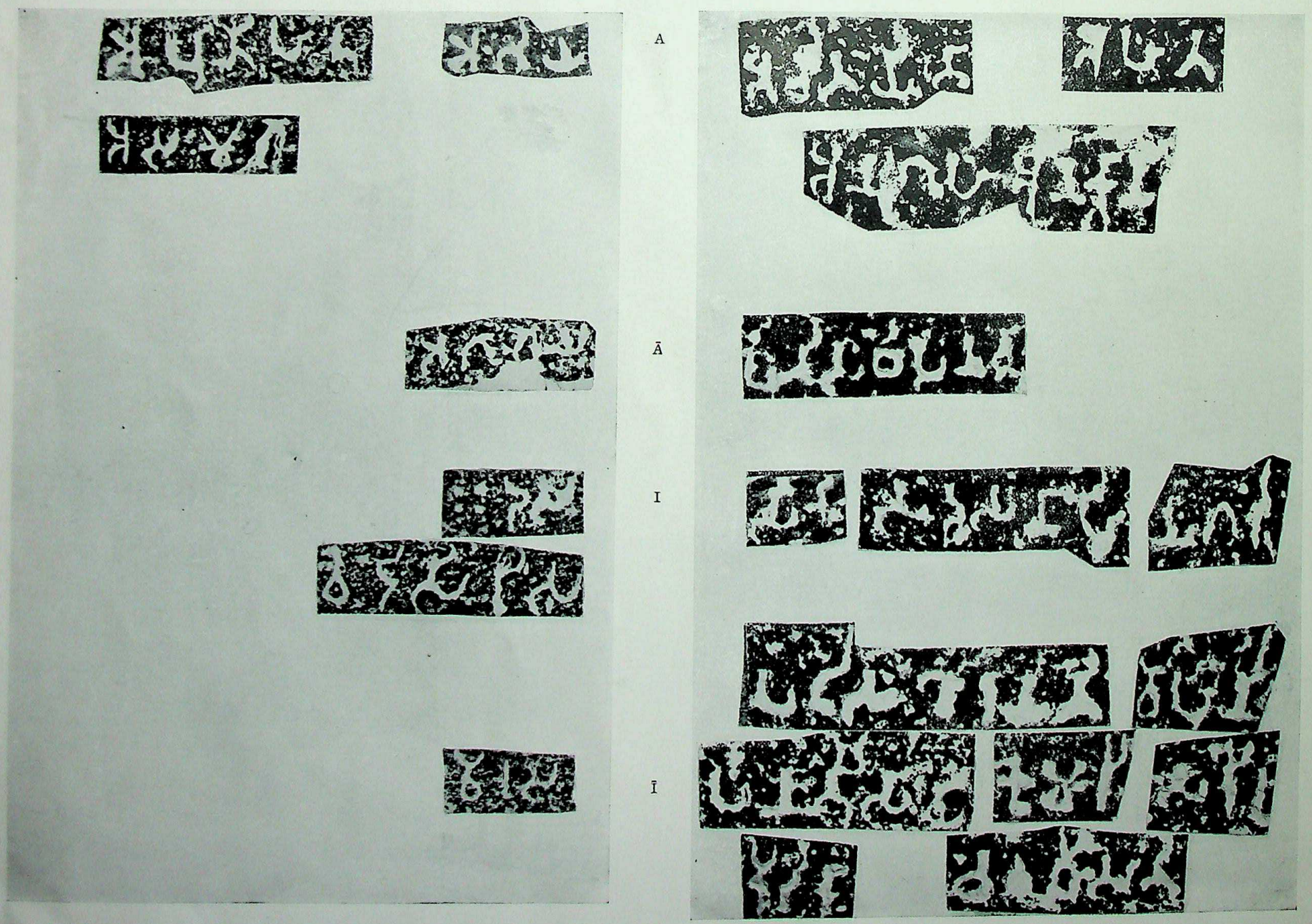
[1] *Journal of the Bihar and Orissa Research Society, Vol. XI, 1925, pp. 71–77.*

[2] *Ibid., Vol. X, 1924, pp. 202–08; Vol. XIII, 1927, pp. 247–49.*

[3] *Cambridge History of India, Vol. I, p. 700.*

The analysis of the characters of the Hathigumpha and Nanaghat inscriptions prove that the Hathigumpha inscription cannot be later than the Nanaghat inscriptions. The use of certain earlier forms in the Nanaghat inscriptions may seem to indicate that they are earlier in date than the Hathigumpha record but it should be remembered that the Nanaghat inscriptions show the use of a very large number of Kṣatrapa or early Kuṣaṇa forms side by side with older ones. Such survivals of early forms in inscriptions far away from the metropolitan district of India will prove to be veritable pitfalls for the unwary. Though the Hathigumpha and Nanaghat inscriptions lie far apart, the use of similar transitional forms indicate that their dates cannot be far distant from each other; but in the chronological scale these two records should be placed in separate groups.

NOTE:—*The Author of this paper died at the early age of 46 years, on Friday 23rd May, 1930, at Calcutta, on the very day that print order was given on the proof.*—ED.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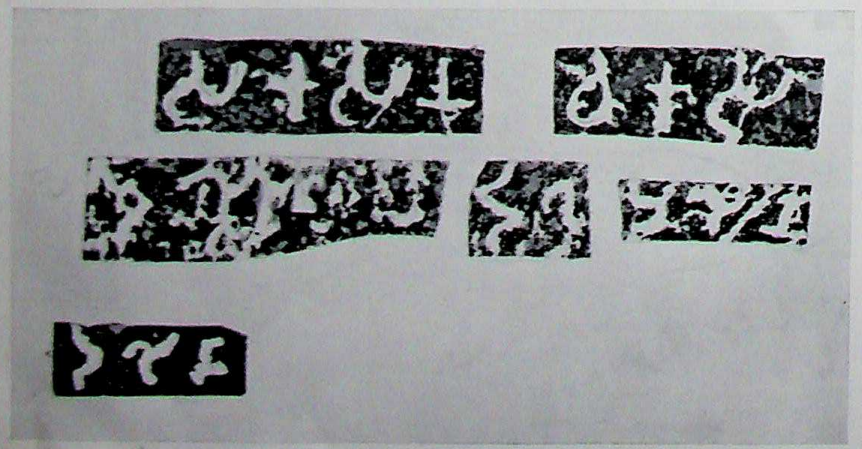

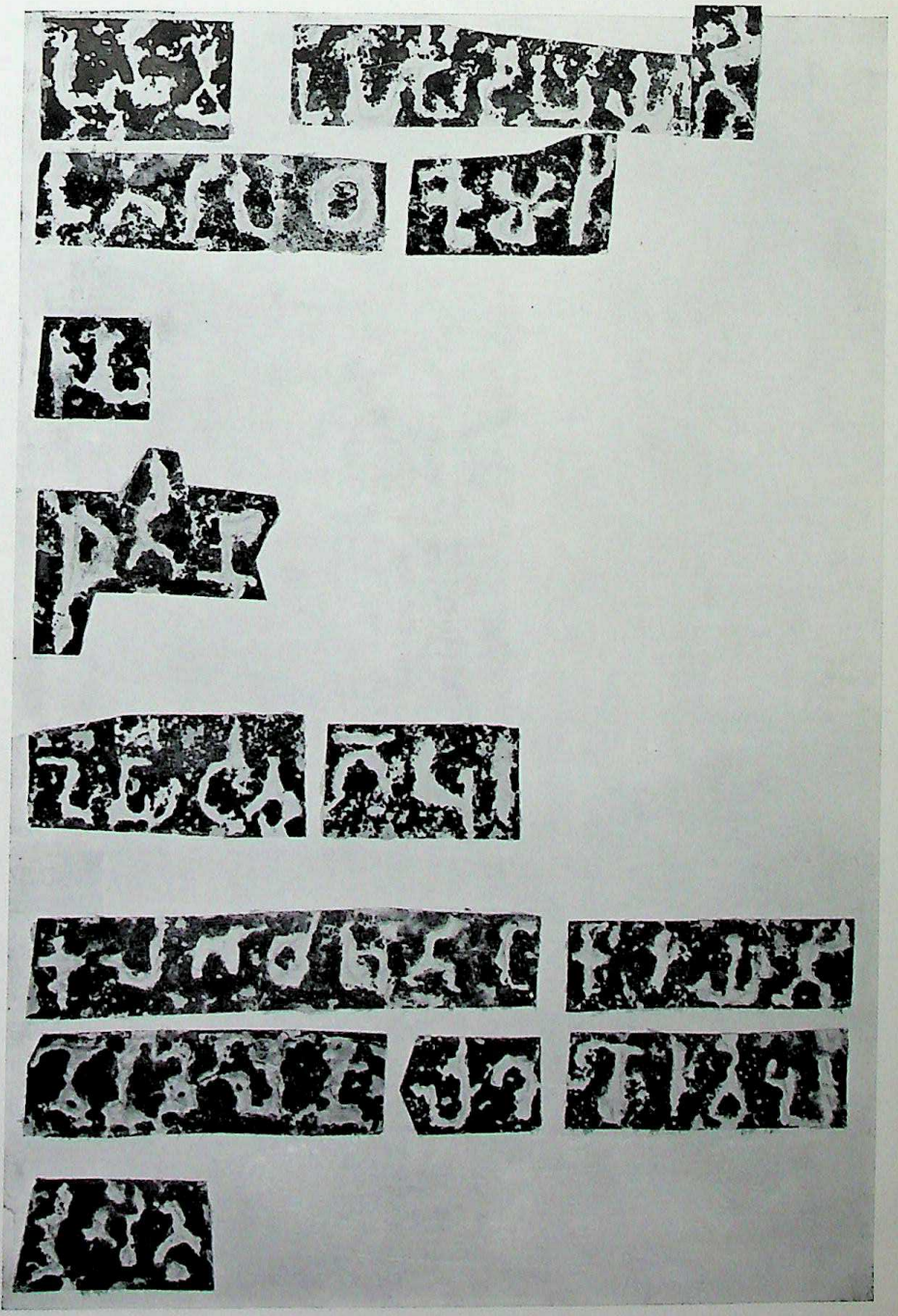

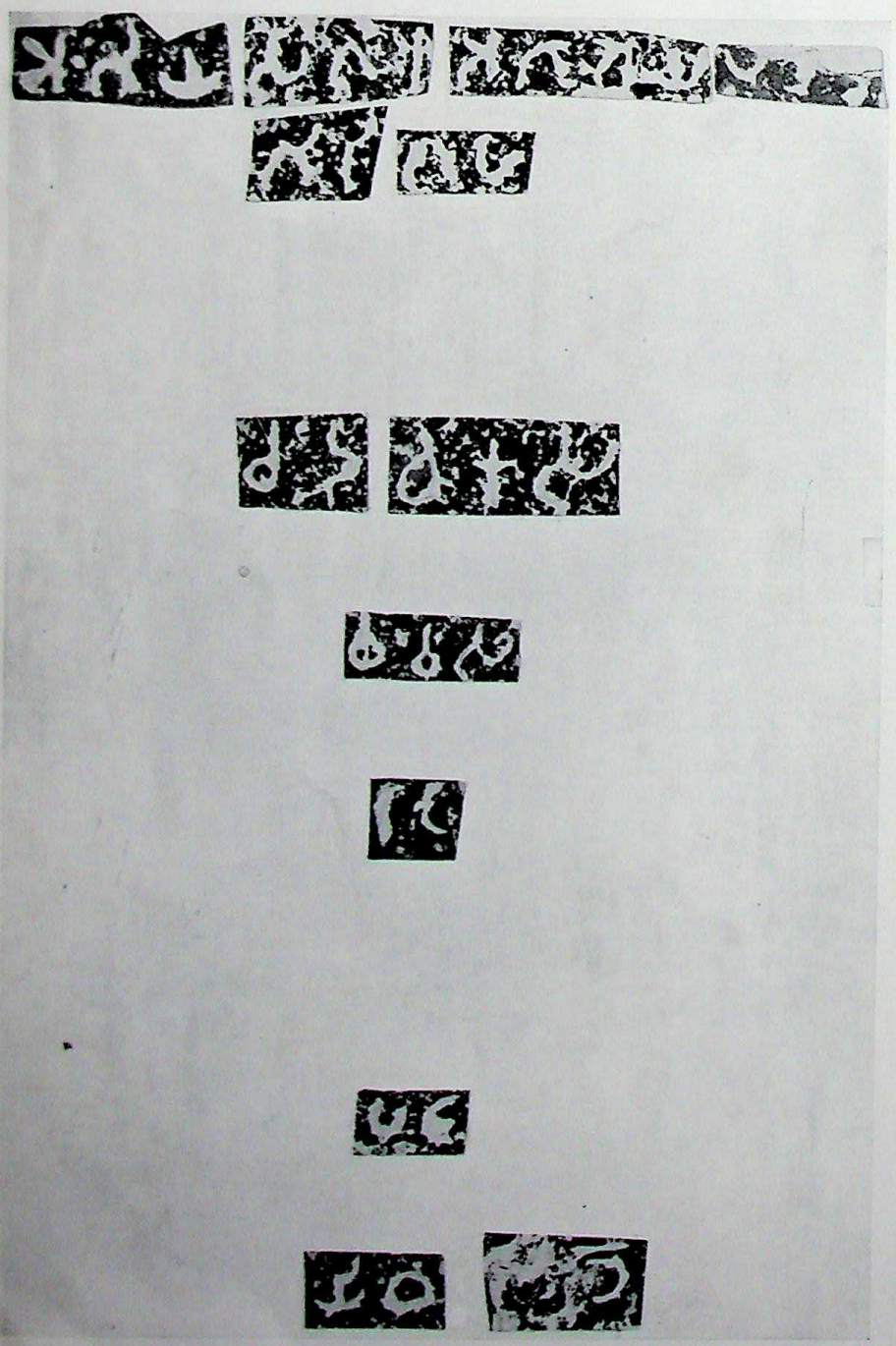

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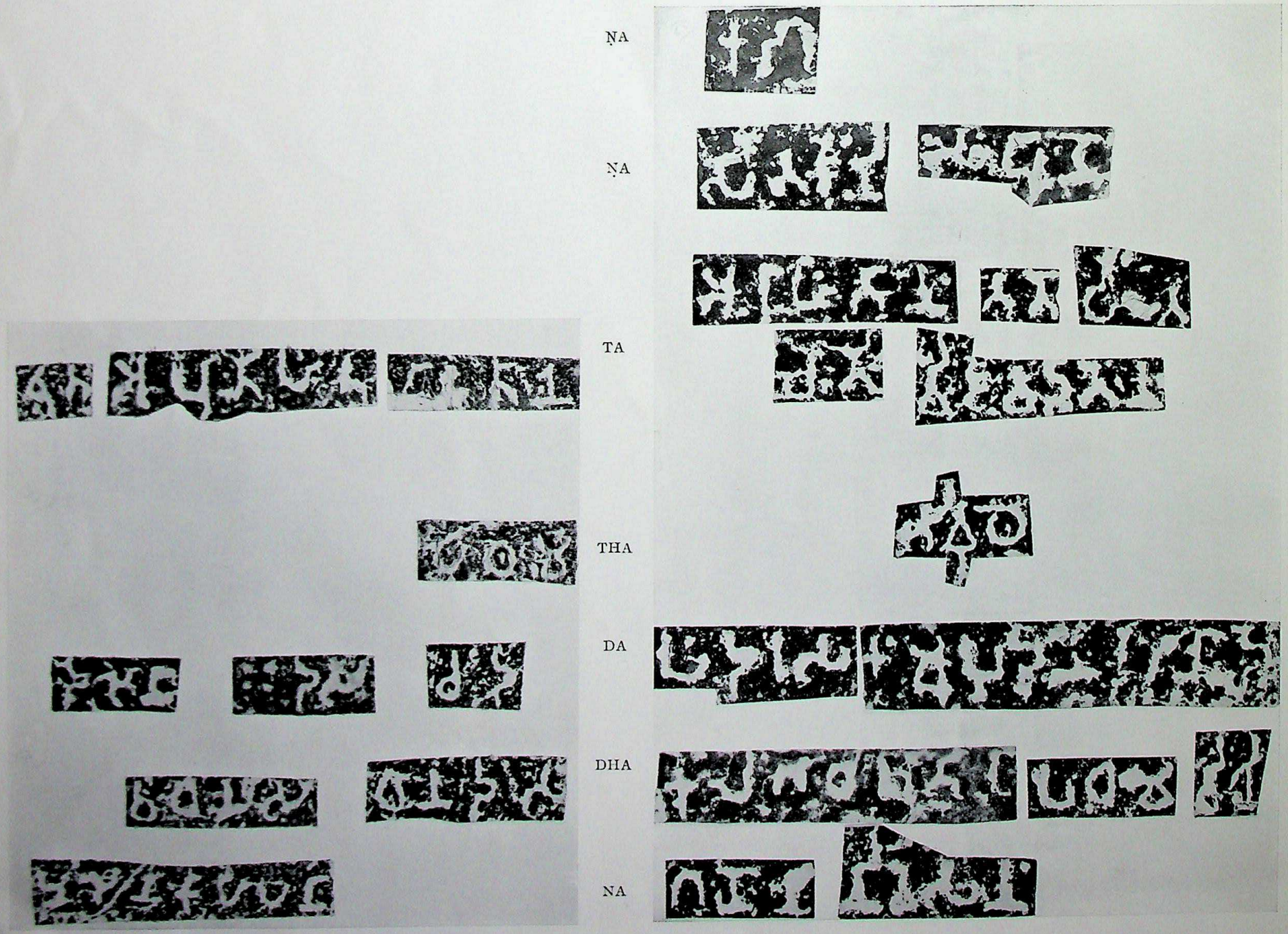
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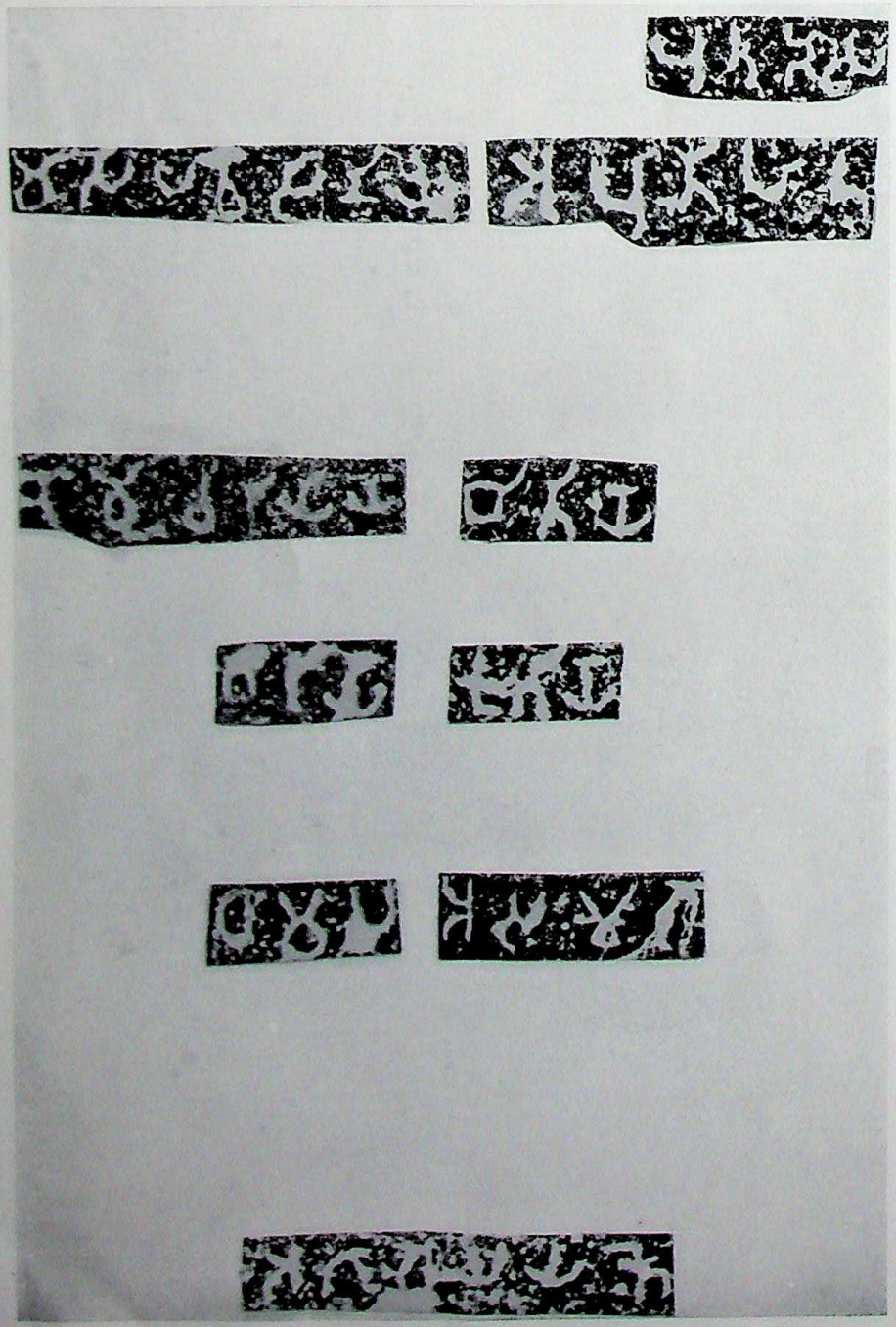

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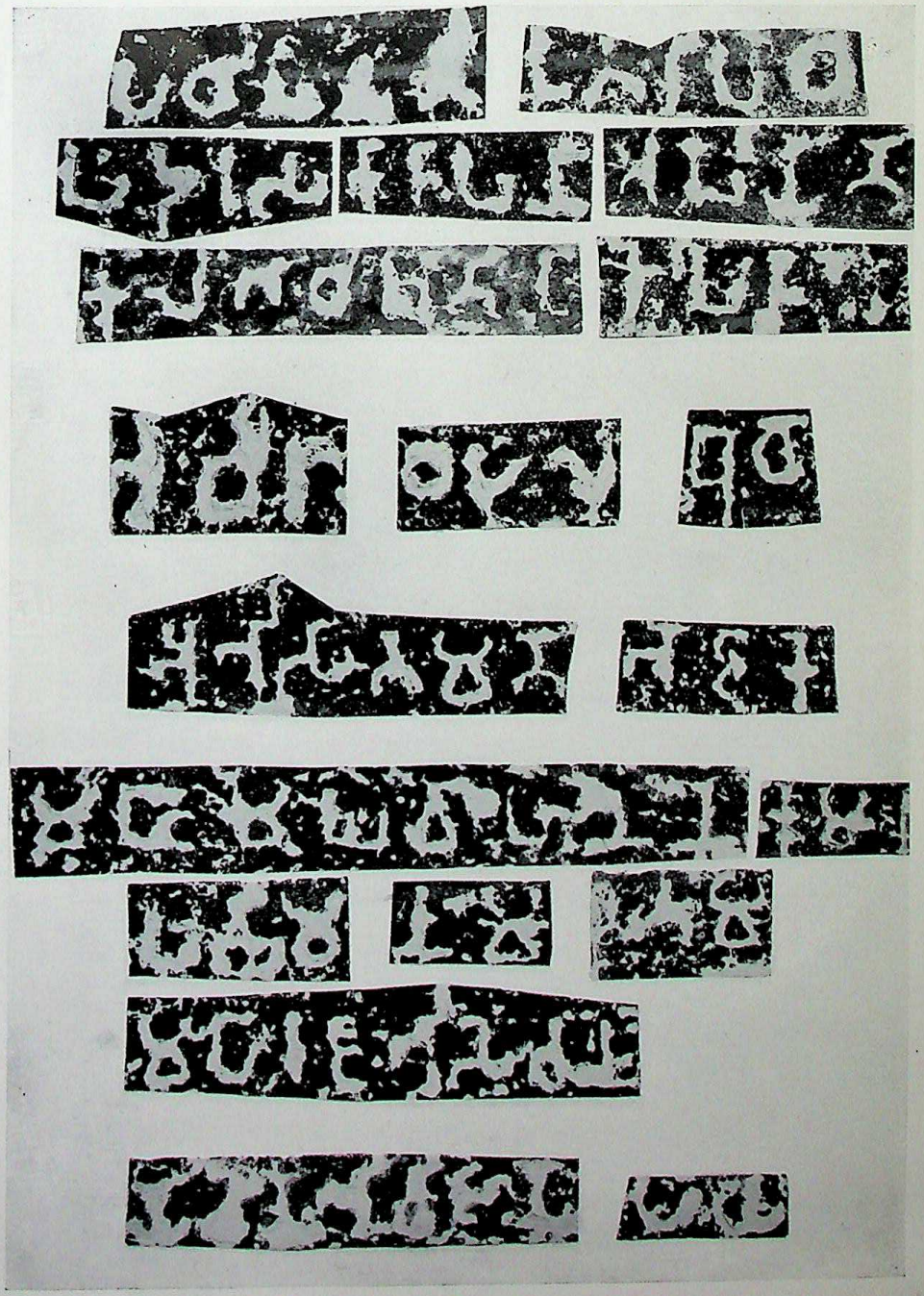

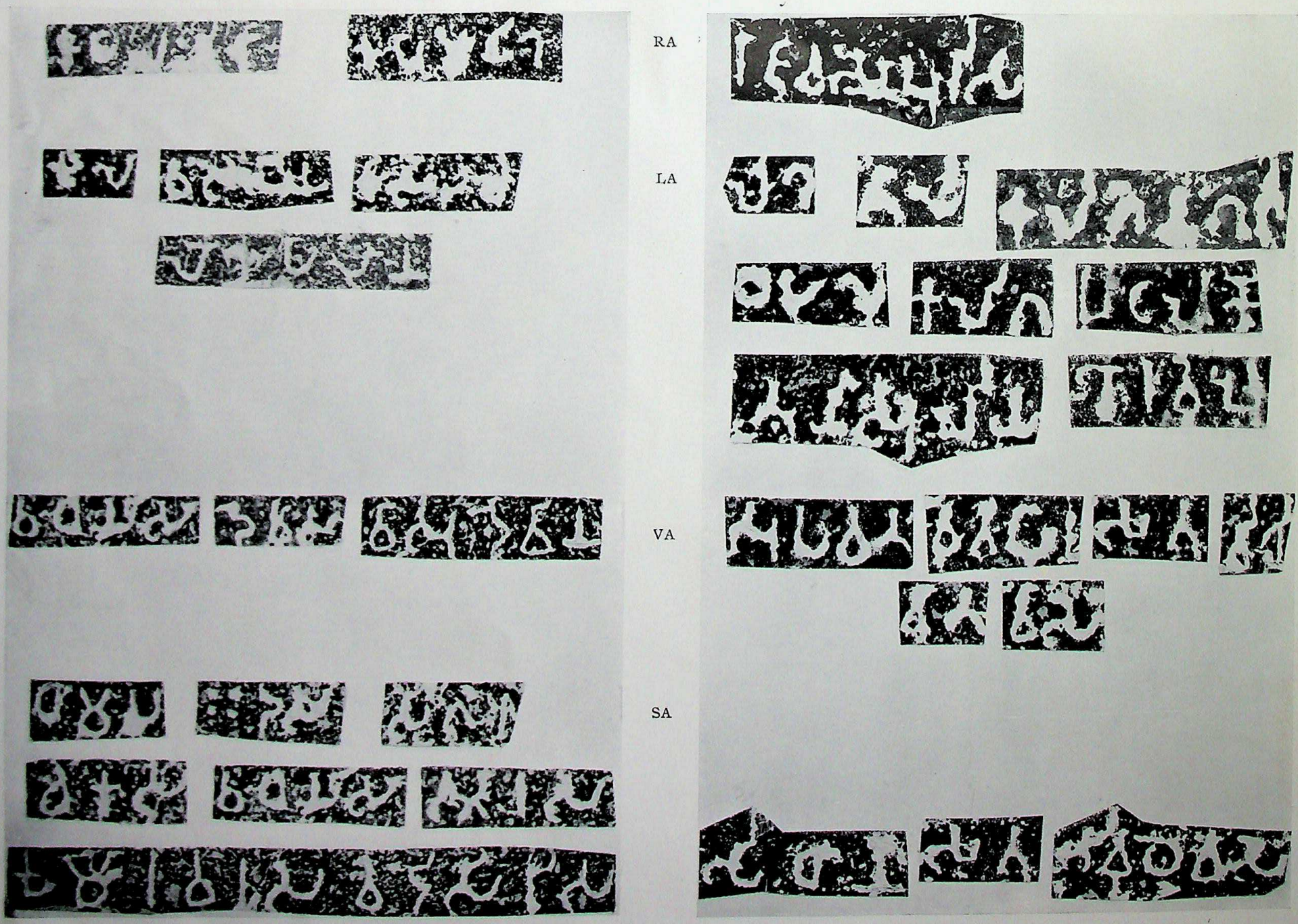
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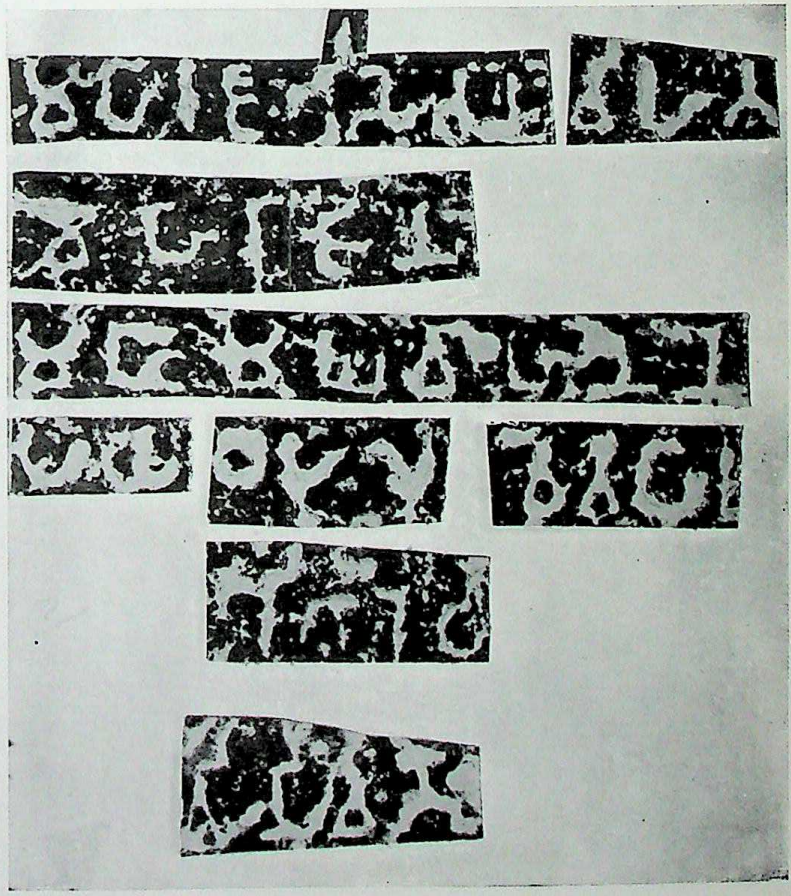

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